

CLAIMS

What is claimed is:

1. A pack assembly for use in an extracorporeal blood circuit, comprising:
  - (a) a carrier adapted to mount a blood reservoir and a blood oxygenator, said carrier including first and second carrier mounting elements for securely mounting said blood reservoir and said blood oxygenator;
  - (b) a blood reservoir releasably secured to the carrier, said blood reservoir including a reservoir mounting element cooperable with one of said carrier mounting elements for securely mounting said blood reservoir to said carrier; and
  - (c) a blood oxygenator releasably secured to the carrier, said blood oxygenator including an oxygenator mounting element cooperable with one of said carrier mounting elements for securely mounting said blood oxygenator to said carrier.
2. A pack assembly according to claim 1, further comprising:
  - (d) at least one tray releasably attached to at least one of the carrier, the blood reservoir and the blood oxygenator, said at least one try providing protective packaging for said blood reservoir and said blood oxygenator and a containment area for tubing components.
3. A pack assembly according to claim 1, further comprising:
  - (d) a barrier pouch enclosing the carrier, the blood reservoir and the blood oxygenator.

- 1 4. A pack assembly according to claim 1, further comprising:  
2 (d) a mounting bracket releasably engaged to the carrier.

- 1 5. A pack assembly according to claim 4, further comprising:  
2 (e) a vertical support structure;  
3 (f) a clamp attaching the mounting bracket to the vertical support  
4 structure.

- 1 6. A pack assembly according to claim 4, further comprising:  
2 (e) a hinge associated with the mounting bracket; and  
3 (f) at least one panel attached to the hinge, the panel including clips or  
4 pegs for supporting a blood reservoir.

- 1 7. A pack assembly according to claim 2, wherein two trays are  
2 releasably attached to the carrier, the blood reservoir or the blood oxygenator.

- 1 8. A pack assembly according to claim 2, further comprising:  
2 (e) a prime line comprising a priming tube and at least one bag spike  
3 attached to the reservoir, at least a portion of the prime line being  
4 disposed within one of the trays.

- 1 9. A pack assembly according to claim 2, further comprising:  
2 (e) an A-V loop comprising a venous line and an arterial line, at least a  
3 portion of the A-V loop being disposed within one of the trays.

- 1 10. A pack assembly according to claim 2, further comprising:  
2 (e) a suction line attached to the reservoir, at least a portion of the  
3 suction line being disposed within one of the trays.

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4 11. A pack assembly according to claim 2, further comprising:  
5 (e) a pump loop comprising a pump inlet line attached to the reservoir,  
6 a pump header attached to the pump inlet line, and a pump outlet  
7 line attached to the pump header and the oxygenator, the pump  
8 header and at least a portion of the pump inlet line and pump outlet  
9 line being disposed within one of the trays.

1 12. A pack assembly for use in an extracorporeal blood circuit,  
2 comprising:  
3 (a) a carrier adapted to mount a blood reservoir and a blood  
4 oxygenator, said carrier including a mounting element, and said  
5 carrier being adapted for mounting on a support;  
6 (b) a blood reservoir releasably attached to the mounting element; and  
7 (c) a blood oxygenator releasably attached to the mounting element;  
8 wherein said carrier is adapted to independently and separately  
9 mount said blood reservoir and said blood oxygenator such that one of said blood  
10 reservoir and said blood oxygenator may be removed from said carrier without  
11 removing another of said blood reservoir and said blood oxygenator.

1 13. A pack assembly according to claim 12, further comprising:  
2 (d) at least one tray releasably attached to the carrier, the blood  
3 reservoir or the blood oxygenator.

1 14. A pack assembly according to claim 13, wherein two trays are  
2 releasably attached to the carrier, the blood reservoir or the blood oxygenator.

1 15. A pack assembly according to claim 12, further comprising:

2 (d) a barrier pouch enclosing the carrier, the blood reservoir and the  
3 blood oxygenator so as to maintain the pack assembly in a sterile  
4 condition prior to use.

1 16. A pack assembly according to claim 12, further comprising:

2 (d) a mounting bracket releasably engaged with the carrier.

1 17. A pack assembly according to claim 16, further comprising:

2 (e) a vertical support structure; and

3 (f) a clamp attaching the mounting bracket to the vertical support  
4 structure.

1 18. A pack assembly according to claim 16, wherein the mounting  
2 bracket is adapted to releasably engage the carrier without removing the barrier  
3 pouch so as to maintain the pack assembly in said sterile condition after mounting  
4 said pack assembly on said mounting bracket.

1 19. A pack assembly according to claim 16, wherein the mounting  
2 bracket includes a slotted track capable of slidingly engaging and releasing the  
3 carrier.

1 20. A pack assembly according to claim 12, wherein the mounting  
2 element has a top surface and a bottom surface, the blood reservoir is supported  
3 and retained on the top surface of the mounting element, and the blood oxygenator  
4 is attached to the bottom surface of the mounting element.

1 21. A pack assembly according to claim 12, wherein the blood  
2 oxygenator includes an attachment disk projecting from its surface on a stem, and

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3 the lower surface of the mounting element has a channel for slidingly engaging  
4 and releasing the attachment disk.

1 22. A pack assembly according to claim 13, wherein the tray is  
2 separated into individual compartments.

1 23. A pack assembly according to claim 16, further comprising:  
2 (e) a hinge associated with the mounting bracket; and  
3 (f) at least one panel attached to the hinge, the panel including clips or  
4 pegs for supporting a blood reservoir.

1 24. A pack assembly according to claim 23, wherein two panels are  
2 attached to the hinge.

1 25. A pack assembly according to claim 13, further comprising:  
2 (e) a prime line comprising a priming tube and at least one bag spike  
3 attached to the reservoir, at least a portion of the prime line being  
4 disposed within one of the trays.

1 26. A pack assembly according to claim 13, further comprising:  
2 (e) an A-V loop comprising a venous line and an arterial line, at least a  
3 portion of the A-V loop being disposed within one of the trays.

1 27. A pack assembly according to claim 13, further comprising:  
2 (e) a suction line attached to the reservoir, at least a portion of  
3 the suction line being disposed within one of the trays.

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1 28. A pack assembly according to claim 13, further comprising:  
2 (e) a pump loop comprising a pump inlet line attached to the reservoir,  
3 a pump header attached to the pump inlet line, and a pump outlet  
4 line attached to the pump header and the oxygenator, the pump  
5 header and at least a portion of the pump inlet line and pump outlet  
6 lines being disposed within one of the trays.

1 29. A pack assembly according to claim 1, wherein said blood reservoir  
2 comprises a cardiotomy reservoir and said pack assembly further comprises a  
3 flexible venous blood reservoir mounted on said carrier.

1 30. A pack assembly according to claim 1, wherein said carrier is  
2 adapted to independently and separately mount said blood reservoir and said blood  
3 oxygenator such that one of said blood reservoir and said blood oxygenator may  
4 be removed from said carrier without removing another of said blood reservoir  
5 and said blood oxygenator.

1 31. A pack assembly according to claim 2, wherein said at least one  
2 tray includes a plurality of compartments, each of said plurality of compartments  
3 including a predetermined tubing component, and said at least one tray enabling  
4 independent and separate deployment of a selected one of said predetermined  
5 tubing components.

1 32. A method for arranging an extracorporeal blood circuit comprising:  
2 providing a pack assembly including a blood reservoir, a blood  
3 oxygenator, and at least one tray including a plurality of tubing assemblies;  
4 mounting the pack assembly for use;

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5 selecting any one of said plurality of tubing assemblies from said at  
6 least one tray; and  
7 deploying said selected one of said plurality of tubing assemblies  
8 for use.

1 33. A method according to claim 32, further comprising providing a  
2 pack assembly including a flexible venous blood reservoir, the blood reservoir  
3 being removable from the pack assembly so as to expose the flexible venous blood  
4 reservoir for use.

1 34. A method according to claim 32 further comprising selecting  
2 another one of said plurality of tubing assemblies from said at least one tray and  
3 deploying said selected another one of said plurality of tubing assemblies for use.

1 35. A method of using an extracorporeal blood circuit, comprising:  
2 providing a carrier adapted to mount a blood reservoir and a blood  
3 oxygenator, a blood reservoir releasably attached to the carrier, and a blood  
4 oxygenator releasably attached to the carrier;  
5 selecting one of said blood reservoir and said blood oxygenator;  
6 removing said selected one of said blood reservoir and said blood  
7 oxygenator without removing the other of said blood reservoir and said blood  
8 oxygenator; and  
9 thereafter, replacing said selecting one of said blood reservoir and  
said blood oxygenator.